

1 1. A method, comprising:  
2 disposing two rectangular diffusions of P (+) material in an n-well  
3 formed in a p-substrate using a complementary metal oxide semiconductor (CMOS)  
4 process;  
5 disposing a polycide gate between the two rectangular diffusions of P  
6 (+) material;  
7 disposing a pair of inductors on the substrate; and  
8 coupling the two rectangular diffusions of P (+) material and the pair of  
9 inductors in a voltage-controlled oscillator (VCO) configuration.

1 2. The method of claim 1 wherein disposing two rectangular diffusions of P (+)  
2 material in an n-well formed in a p-substrate using the CMOS process comprises  
3 disposing two rectangular diffusions of P (+) material in an n-well formed in an  
4 epitaxial substrate using the CMOS process.

1 3. The method of claim 1 wherein disposing two rectangular diffusions of P (+)  
2 material in an n-well formed in a p-substrate using the CMOS process comprises  
3 disposing two rectangular diffusions of P (+) material in an n-well formed in a non-  
4 epitaxial substrate using the CMOS process.

1 4. The method of claim 3 wherein disposing two rectangular diffusions of P (+)  
2 material in an n-well formed in a p-substrate using the CMOS process comprises  
3 disposing two rectangular diffusions of P (+) material in an n-well diffused in a p-  
4 substrate using the CMOS process.

1 ~~5~~4. The method of claim 3 wherein disposing two rectangular diffusions of P (+)  
2 material in an n-well formed in a p-substrate using the CMOS process comprises  
3 disposing two rectangular diffusions of P (+) material in an n-well diffused in a p-  
4 substrate using the CMOS process.

1 ~~6~~5. The method of claim 1 wherein disposing two rectangular diffusions of P (+)  
2 material in an n-well formed in a p-substrate using the CMOS process comprises  
3 building a metal oxide structure on top of the n-well.

1 ~~7~~6. The method of claim 1 further comprising defining the spacing between the  
2 two rectangular diffusions of P (+) material using a lightly doped drain (LDD)  
3 structure .

1 ~~8~~7. The method of claim 1 further comprising defining the spacing between the  
2 two rectangular diffusions of P (+) material using halo implantation.

1 ~~9~~8. A method, comprising:  
2 forming two rectangular diffusions of P (+) material in or on an n-well  
3 formed in or on a substrate; and  
4 defining a spacing between the two rectangular diffusions of P (+)  
5 material using a polycide gate in a complementary metal oxide semiconductor  
6 (CMOS) process.

1 ~~10~~9. The method of claim 8, further comprising diffusing an n-well into the  
2 substrate.

1 <sup>11</sup>10. The method of claim 9, further comprising diffusing an N (+) well into the n-  
2 well.

1 <sup>12</sup>11. The method of claim 8, further comprising defining a spacing between the two  
2 rectangular diffusions of P (+) material using at least one of a lightly doped drain  
3 (LDD) structure or halo implantation.

1 <sup>13</sup>12. The method of claim 8 wherein forming two rectangular diffusions of P (+)  
2 material in or on an n-well formed in or on a substrate in a CMOS process comprises  
3 forming two rectangular diffusions of P (+) material in or on an n-well formed in or  
4 on a non-epitaxial substrate.

1 <sup>14</sup>13. An apparatus, comprising:  
2 two rectangular diffusions of P (+) material disposed in an n-well  
3 diffused into a p-substrate; and  
4 a polycide gate disposed between the two rectangular diffusions of P (+) material in a  
5 complementary metal oxide semiconductor (CMOS) process.

1 <sup>15</sup>14. The apparatus of claim 13 wherein the substrate comprises a non-epitaxial  
2 substrate.

1 <sup>16</sup>15. The apparatus of claim 14, further comprising a lightly doped drain (LDD)  
2 disposed between the two rectangular diffusions of P (+) material.

1 <sup>17</sup>16. The apparatus of claim 14, further comprising a halo implant disposed between  
2 the two rectangular diffusions of P (+) material.

1 ~~17~~. An article of manufacture, comprising:  
2 machine-readable medium having machine-readable instructions stored  
3 thereon to instruct a processor to form two rectangular diffusions of P (+) material in  
4 or on an n-well formed in or on a substrate and to define a spacing between the two  
5 rectangular diffusions of P (+) material using a polycide gate in a complementary  
6 metal oxide semiconductor (CMOS) process.

1 ~~18~~. The article of manufacture of claim 17, wherein the machine-readable  
2 instructions are further to instruct the processor to diffuse an n-well into the substrate.

1 ~~19~~. The article of manufacture of claim 18, wherein the machine-readable  
2 instructions are further to instruct the processor to diffuse an N (+) well into the n-  
3 well.

1 ~~20~~. The article of manufacture of claim 17, wherein the machine-readable  
2 instructions are further to instruct the processor to define a spacing between the two  
3 rectangular diffusions of P (+) material using at least one of a lightly doped drain  
4 (LDD) structure or halo implantation.

1 ~~21~~. A system, comprising:  
2 a voltage variable capacitor having two rectangular diffusions of P (+)  
3 material disposed in an n-well diffused into a p-substrate and a polycide gate disposed  
4 between the two rectangular diffusions of P (+) material in a complementary metal  
5 oxide semiconductor (CMOS) process; and  
6 a pair of inductors formed on the substrate in the CMOS process and  
7 coupled to the voltage variable capacitor in a voltage-controlled oscillator (VCO)  
8 configuration.

1 <sup>23</sup> 24. The system of claim 23, further comprising a charge pump coupled to an output  
2 of the phase detector.

1 <sup>24</sup> 25. The system of claim 25 further comprising, a loop filter coupled to an output of  
2 the charge pump.

1 <sup>25</sup> 26. The system of claim 25 further comprising a buffer coupled to an output of the  
2 loop filter and to the input of the VCO.